Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*01 February 2000*</u> .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-44* is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-44* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>*01 February 2000*</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

   If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All b)☐ Some * c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____ .

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

   a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☐ Interview Summary (PTO-413) Paper No(s). _____ .
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)
3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .   6)☐ Other: .

DETAILED ACTION

Specification

1.   The disclosure is objected to because of the following informalities: The

specification contains sentence fragments which are unclear, at page 1, line 29; page 6,

line 2; and page 6, line 24.

Appropriate correction is required.

Claim Objections

2.   Claims 20 and 24 are objected to under 37 CFR 1.75(c), as being of improper

dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s)

in proper dependent form, or rewrite the claim(s) in independent form.

With respect to Claim 20, the language of the claim is identical to that of Claim 18

from which it depends.

With respect to Claim 24, the language of the claim is identical to that of Claim 21

from which it depends.

3.   Claim 30 is objected to because of the following informalities: the claim refers to

"the method of claim 9," while Claim 9 is claiming an apparatus. Appropriate correction

is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

5.   Claims 13-14, 18-20, 23, 26-27, 32-37, and 43 are rejected under 35 U.S.C. 112,

second paragraph, as being indefinite for failing to particularly point out and distinctly

claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "said user" in line 23. There is insufficient

antecedent basis for this limitation in the claim. For purposes of applying the prior art, it

is assumed that this refers to the "known party" of Claim 10. Further, Claim 14 is

rejected due to its dependence on rejected Claim 13.

Claims 18 and 20 recite the limitation "said notification" in line 1 and line 4,

respectively. There is insufficient antecedent basis for this limitation in the claim.

Claim 19 recites the limitation "said second condition" in line 3. There is

insufficient antecedent basis for this limitation in the claim.

Claim 23 recites the limitation "the prohibited second action" in line 7. There is

insufficient antecedent basis for this limitation in the claim.

Claims 26, 27, and 43 recite the limitation "the other individual" in line 12, line 13,

and line 5, respectively. There is insufficient antecedent basis for this limitation in the

claims.

Claims 32 and 33 recite the limitation "the specified user" in line 18 and line 20,

respectively. There is insufficient antecedent basis for this limitation in the claims.

Claims 34 and 35 recite the limitation "the specified user" in line 21 and line 23,

respectively. There is insufficient antecedent basis for this limitation in the claims. For

purposes of applying the prior art, it is assumed that this refers to the "known party" of

Claim 10.

Claims 36 and 37 recite the limitation "the specified role" in line 24 and line 26,

respectively. It is unclear whether this refers to the first role or the second role of Claim

3.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   Claims 1-9, 21-22, 24-25, 28-30, 40-42, and 44 are rejected under 35 U.S.C.

103(a) as being unpatentable over Geiger et al, US Patent 6073142, in view of Sandhu,

"Transaction Control Expressions for Separation of Duties."

In reference to Claims 1, 2, and 7, Geiger discloses a method using a database

of rules to implement organizational policies (column 3, lines 28-30) acting on various

data objects, including database records and information (column 2, lines 56-67 and

column 12, lines 35-45). Geiger describes the construction of rules (column 12, line 52-

column 17, line 2). More specifically, "Each rule describes a specific action to be taken

when an attribute of a ... data object satisfies an operator with respect to a user-defined

value" (column 13, lines 18-21). However, Geiger does not give examples of a rule

used to specifically preclude a second action upon the occurrence of a first action defined as a condition, nor does Geiger use the specific example of separation of duties as an organizational policy.

Sandhu teaches that "Separation of duties is a fundamental technique for prevention of fraud and errors" (pg. 282, column 1). An example of separation of duties is given wherein a check is prepared by a clerk, the check is approved by a supervisor, and the check is issued by a second clerk. This is done to ensure that "different users have responsibility and authorization" for each step of the process (pg 282, column 2). The separation of duties means that, in this example, "it will take collusion of two clerks and a supervisor to perpetrate fraud" (pg 283, column 1) whereas, without separation of duties, a single person would be more able to commit fraud. The example of preparing, approving, and issuing a check is analogous to Claim 7, wherein the rule that is stored and utilized in the system prevents the same user from both ordering goods or services (a preliminary step to preparing the check) and paying for the goods or services (approving and issuing the check). These benefits of the separation of duties are well known, and it would be obvious to automate the enforcement of this policy once the remainder of the system has been automated.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Geiger by using its system of rules to automate an implementation of a policy of separation of duties, as described by Sandhu, in order to prevent fraud and errors (see Sandhu, pg. 282).

In reference to Claim 40, the security policy is separation of duties, as described above in reference to Claim 1.

In reference to Claim 41, compliance to regulation is generally a legal requirement for the company administering such a system. It would be obvious to modify the combined system of Geiger and Sandhu, described in reference to Claim 1, to include a policy of compliance to regulation in order to avoid the legal repercussions of a failure to comply.

Further, in reference to Claim 42, the benefits or requirements of privacy of data are well known. It would be obvious to modify the combined system of Geiger and Sandhu, described in reference to Claim 1, to include a policy of privacy of data in order to gain the benefits of privacy.

In reference to Claim 5, Geiger discloses an expiration date for a message (column 23, line 53-column 24, line 5). Geiger further discloses rules that can state that an action is to be taken when "the time parameters... are satisfied" (column 24, lines 61-64, with a specific example in lines 64-67).

In reference to Claims 6, 21, and 24, Geiger discloses that, upon returning a message to a user, the user is notified, via email, of the reason that the message was returned (column 16, lines 10-15).

In reference to Claims 22, 25, 28, 29, and 44, Geiger discloses that messages

may be sent to a "gatekeeper" for further review, if certain conditions are met and

certain rules apply (see Abstract; Figures 1,3, 4A, and 4B; and column 3, lines 9-19, for

example). Specifically in reference to Claims 22 and 25, Geiger discloses that the

gatekeeper is notified, via email, of the reason that the message was sent on to the

gatekeeper (column 16, lines 10-15). Further, Geiger discloses that a message may be

sent on to another employee if a message matches certain properties (column 3, lines

53-61). Specifically in reference to Claims 28 and 29, Geiger discloses that a message

may be forwarded to a specific individual based on matching certain properties (column

3, lines 53-61, and column 7, Table 7, for example) where this could be the user's

manager or an employee responsible for data security. Specifically in reference to

Claim 44, Geiger discloses that the gatekeeping function may be an automated

computer process (column 24, lines 6-14).

In reference to Claims 3 and 4, Sandhu discloses a further limitation for

separation of duties: once an action has been performed by one user, a second action

can only be performed by certain other users. Specifically, for the example of

preparing, approving, and issuing a check, after a clerk has prepared the check, only a

supervisor may approve the check. Similarly, once the supervisor has approved the

check, only a second clerk may issue the check. If a clerk attempts to approve the

check, or a supervisor attempts to approve the check, then the system should reject the

attempt (page 283, columns 1-2). Specifically in reference to Claim 4, in the example

described, the roles of the two users are different, specifically supervisor and clerk.

In reference to Claim 8, Geiger discloses a system which includes a file of rules

(Figure 2, Rule Base 270, and Figure 3, Gatekeeping Rule Base 289) and means for

reading said file, locating said rules, and integrating said rules into the system (Figure 2,

Rule Engine 210, and Figure 3, Rule Engine 283).   However, Geiger does not give

examples of rules used to prevent a specified data transaction by a user after a user

has effected a specified transaction to modify data.

Sandhu teaches that "Separation of duties is a fundamental technique for

prevention of fraud and errors" (pg. 282, column 1). An example of separation of duties

is given where the same individual cannot be responsible for preparing, approving, and

issuing a check, as described with reference to Claims 1, 2, and 7 above. The benefits

of the separation of duties are well known, and it would be obvious to automate the

enforcement of this policy once the remainder of the system has been automated.

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the system of Geiger by using its system of rules

to automate an implementation of a policy of separation of duties, as described by

Sandhu, in order to prevent fraud and errors (see Sandhu, pg. 282).

In reference to Claim 9, Geiger discloses an expiration date for a message

(column 23, line 53-column 24, line 5). Geiger further discloses rules that can state that

an action is to be taken when "the time parameters... are satisfied" (column 24, lines 61-64, with a specific example in lines 64-67). Further, it would be obvious to eliminate rules from the system once there is some condition or time period indicating that a rule is no longer valid in order to keep system resources available.

In reference to Claim 30, Sandhu describes that a history of the objects acted upon is created (pg 283, column 2) and that separation of duties can be enforced by keeping such history information (pg 284, column 2). Geiger discloses that the rules may be stored "by any of a number of useful implementing data structures" (column 16, lines 42-45). Further, it would be obvious to store eliminated rules for record-keeping purposes, and also in the event that a rule might need to be re-used.

8.   Claims 16, 18, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiger in view of Sandhu as applied to claim 1 above, and further in view of Scannell, et al, US Patent 5377354.

In reference to Claim 16, Scannell discloses that a rule can be used as a template for other rules, in order to create a "new but similar rule" (column 8, lines 41-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of Geiger and Sandhu, as described above in reference to Claim 1, by allowing for the use of templates for rule creation, in order to create "new but similar" rules, as taught by Scannell (see Scannell, column 8, lines 41-44).

In reference to Claims 18 and 20, Geiger, Sandhu, and Scannell disclose everything as applied above to Claim 16. In addition, Geiger further discloses that, upon returning a message to a user, the user is notified, via email, of the reason that the message was returned (column 16, lines 10-15).

9.   Claims 10, 13-15, 17, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiger, US Patent 6073142, in view of Sandhu, "Lattice-Based Access Control Models."

In reference to Claim 10, Geiger discloses a system in which rules are stored (Figure 2, Rule Base 270, and Figure 3, Gatekeeping Rule Base 289) and included in the system (Figure 2, Rule Engine 210, and Figure 3, Rule Engine 283). However, Geiger does not give examples of rules used to prevent a known party from accessing information on the condition that the party has knowledge of a particular set of information.

Sandhu teaches that the objective of a Chinese Wall policy "is to prevent information flows that result in a conflict of interest for individual consultants" (pg. 17, column 2). For example, a consultant should not have access to information about two companies of the same type, such as two banks, "because such information creates a conflict of interest in the consultant's analysis and is a disservice to clients" (pg. 17, column 2). After a consultant has accessed information about one bank, the consultant

is prevented from accessing information about an other bank. Further, this prevention

of access can be removed once information is no longer sensitive, but "should persist

long enough to avoid a conflict of interest" (pg. 17, column 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the

time the invention was made to modify the system of Geiger by using its system of rules

to automate an implementation of a Chinese Wall policy, as described by Sandhu, in

order to prevent a conflict of interest (see Sandhu, pg. 17).

In reference to Claims 13-14, Geiger discloses that, upon returning a message to

a user, the user is notified, via email, of the reason that the message was returned

(column 16, lines 10-15).

In reference to Claim 15, it is well known that if information has been made

public, it is no longer sensitive. Further, Sandhu describes that the denial of access to

information "should persist long enough to avoid a conflict of interest" (pg 17, column 3),

that is, after a predetermined time, the information would no longer be considered

sensitive.

In reference to Claim 17, Geiger discloses that messages may be sent to a

"gatekeeper" for further review, if certain conditions are met and certain rules apply (see

Abstract; Figures 1,3, 4A, and 4B; and column 3, lines 9-19, for example).

In reference to Claim 31, Geiger discloses that the rules may be stored "by any of a number of useful implementing data structures" (column 16, lines 42-45). Further, it would be obvious to store eliminated rules for record-keeping purposes, and also in the event that a rule might need to be re-used.

10.   Claims 11, 12, 38, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geiger in view of Sandhu as applied to claim 10 above, and further in view of Scannell, et al, US Patent 5377354.

In reference to Claim 11, Scannell discloses that a rule can be used as a template for other rules, in order to create a "new but similar rule" (column 8, lines 41-44). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combined system of Geiger and Sandhu, as described above in reference to Claim 10, by allowing for the use of templates for rule creation, in order to create "new but similar" rules, as taught by Scannell (see Scannell, column 8, lines 41-44).

In reference to Claim 12, a party known to the system will in general be assigned a predetermined role; for example, Sandhu describes users in a consultant role (pg. 17, column 2).

In reference to Claim 38, it would be obvious not to load a rule until a user in the role specified by the rule logs on in order to conserve system memory resources by not loading the rule unnecessarily.

Similarly, in reference to Claim 39, it would be obvious only to test a rule for a user in the role specified by the rule, in order to conserve processing resources by not testing the rule unnecessarily.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary A Davis whose telephone number is (703)305-8902. The examiner can normally be reached on weekdays 8:30-6:00, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Morse can be reached on (703)308-4789. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-3900.

zad

MATTHEW SMITHERS
PRIMARY EXAMINER
Art Unit 2134